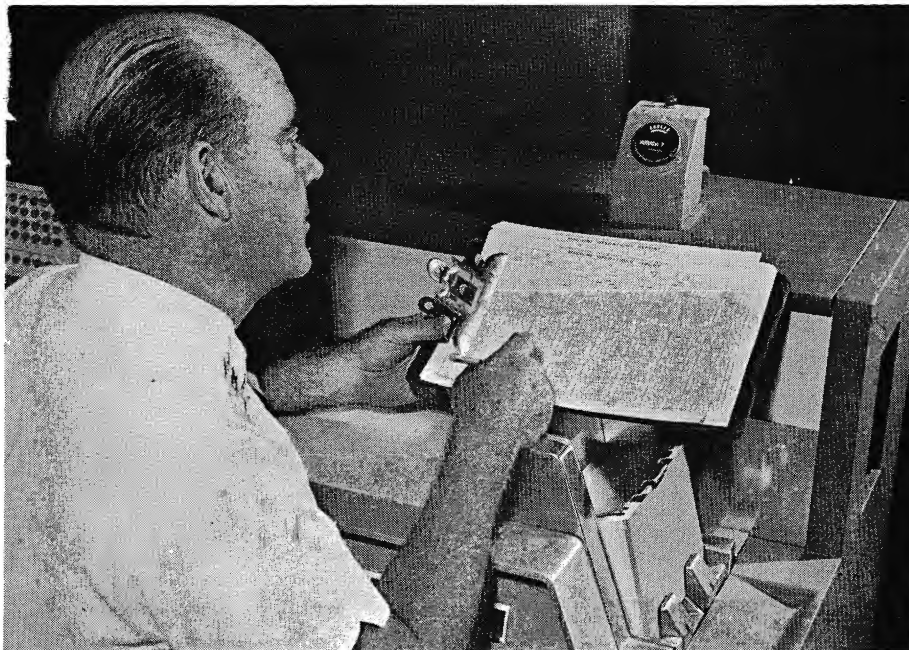


# DATA PROCESSING



Keeping accurate records of the actual operating time of all data processing equipment has allowed Prudential Insurance Co. of America, Newark, N.J., to reduce its machine rental expense. (See page 130.)

**Current trends  
in office automation.**

## Metering Reduces Rental Costs of EDP Equipment

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**P**RUENTIAL Insurance Co. of America not only sells almost every form of individual and group insurance but is one of the largest investors in homes, farms and corporate financing and cannot afford the slightest lapse in the continuing maintenance of its day-to-day records. To determine the efficiency of its data equipment, the company decided to obtain a detailed performance record of each machine which would disclose quickly and accurately every aspect of the machine's contribution to Prudential's accounting operations. Because it now has such records, Prudential is saving at least \$100,000 per year in rental costs of electric accounting equipment in its Newark, N. J., offices alone.

Metering devices are mounted atop each machine to measure and record the hours, minutes and seconds that a machine actually operates. Manufactured by Engler Instrument Co., Jersey City, N. J., these low-cost, elapsed time meters provide data that completely reorganized facilities and eliminated 20% of the equipment that had previously been deemed vital to efficient operations in the accounting department. The meters enable management to accurately measure machine time lost because of set-up procedures, breakdowns and periodic preventive maintenance measures. Constant study of these readings has enabled the company to measure and standardize operating costs, for each accounting machine and for individual departments. They also can accurately determine the added leasing costs for extra shifts.

Prudential devised a machine accounting report for use with a new Digitek optical reader and card punch which it placed in service at the beginning of this year. An operator reports his use of a machine merely by drawing a pencil line through numbers in appropriate columns. These marks identify the operator, department, machine's number, and whether the work is being performed during a regular or overtime shift. Additional marks indicate the code number of the job and starting time appearing on the face of the machine's meter. After these items have been entered, operator turns on the machine and the meter records until the job is completed. The operator then notes the stopping time on the meter and adds this to his report form which remains at the machine for a successive series of markings each time an operator uses the unit. Each machine operation report contains entry space for seven start-and-stop operations per machine.

Included on the service record are such usage factors as machine's total running hours, time spent for handling and set-up and actual productive hours. The productive hours are subdivided to measure use by each department or division, whether the machine time was loaned or borrowed, and the number of overtime productive hours. Each machine's idle time, in hours and percentages, is also detailed. The record notes each machine's time for inspection and engineering changes; also ) detailed breakdown times, including waiting and service hours, plus the number of service calls a machine requires. The final column indicates machine's total down-time hours. With this all-inclusive history now available for evaluating their machines, Prudential method analysts no longer have to wonder when they can call a halt to the ever-increasing rental of additional equipment.

**November 1965**

**The meter (lower left) in recessed flush mounting for the Digitek 100 card punch.**

# Elapsed Time Recorders Determine Costs

**T**HERE may be safety in numbers, but reliance on numbers also has its pitfalls—especially when electric accounting machines are involved.

When a firm uses thousands of machines to produce accurate accounting information, there is always the problem that some machines may be over-worked while others remain relatively unused. The New York Telephone Co. had such a problem.

Throughout the area served by its New York office, business was burgeoning, calling for increasingly heavy processing. Attempting to cope with the expanding demand, the company added machine after machine to its array of electric accounting equipment. But, it soon became evident that further additions would be grossly uneconomical, both in cost and floor space requirements.

Turning to another tactic to

increase electric accounting machine productivity through a more balanced use of equipment, phone company authorities decided to install Elapsed Time Meters—measuring devices produced by Engler Instrument Co.

Mounted atop an electric accounting machine (EAM) each instrument records the exact time a unit operates, exclusive of set-up or handling time.

## D A T A

**T**HE decision to use elapsed time meters was a successful one. Today, the meters are logging precise operating time down to hundredths of a minute for the company's sorters, collators, card proving and accounting machines, reproducers, interpreters, and calculators.

Using the data provided by the meters, the telephone company

now develops a running "biography" for its EAM units, compiling a daily detailed service record that pinpoints each machine's strengths and weaknesses. Accounting and methods personnel now have the tool they sought to (1) identify low-production machines; (2) reschedule work loads for balanced, uninterrupted operations; (3) determine operating costs more precisely and (4) rearrange machine and supply layouts to reduce setup and handling times. As a result, the company is completing greater volumes of processing with 20 percent fewer EAM units.

Playing an integral part in the phone company's machine-efficiency efforts are daily time record forms which the company designed for its machine operators to use in conjunction with the meter readings. An operator reporting to a collator, for exam-

ple, will find a supply of the forms awaiting him at the unit.

Properly filled out, the entries now reveal how much processing time the machine accumulated as well as the total time the operator spent at the machine. In addition, individual machine operation time is broken down even further. Was the machine turned on and used to complete a specific assignment? This distinctive information appears on the form. Similarly, other non-productive machine categories including downtime, maintenance, or testing operations are recorded.

Testifying to the reliability of the meters, the computer company accepts the readings, basing leasing costs for the EAM units on a flat fee plus a time-percentage formula involving machine hours in excess of a specified allotment.

At the end of every working day, the time records are collected from each operator and machine for daily tabulation, insertion and balancing on a data processing daily time log. This log, one for each machine, serves

as a summary, bringing together in one place the hours and minutes a machine has been in service throughout the day.

## R E P O R T

**"B**Y entering the time record data without delay on the daily time log, we can clarify any discrepancies as soon as they crop up," explains James A. Bell, accounting manager. "If two operators should turn in a time record indicating that they both used the same machine at the same time on the same day, we can go to them immediately and while the work is still fresh in their memories, obtain the correct version of what actually has occurred."

Information on the EDP Daily Time Log, considered raw data in this form, then goes to the Results Unit, a coordinating body that analyzes data to improve operations.

The results unit processes the raw data with the computers producing a printed, detailed report

on each machine by type and identifying number.

Distributed monthly, this report contains a detailed summation of each machine's operations by assignment categories, measuring productive time against non-productive time and noting total downtime resulting from inspection, servicing, and malfunctions.

With up-to-date operating records of each machine concisely summarized and available for instant analysis, Mr. Bell and analysts in the Results Unit quickly determine whether the volume of work produced by an individual machine—a sorter, for instance—justifies its continued existence.

"We can also tell whether certain machines tend to be overloaded at certain periods of the day or week while other machines remain comparatively unused," says Mr. Bell. "When we find such a situation, we revise our scheduling so that peaks and valleys are leveled and each machine carries its share of the load." □



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